



UNITED STATES PATENT AND TRADEMARK OFFICE

NV

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/017,262	12/14/2001	David L. Adler	P960	6094
31894	7590	11/18/2004	EXAMINER	
OKAMOTO & BENEDICTO, LLP P.O. BOX 641330 SAN JOSE, CA 95164			JOHNSTON, PHILLIP A	
			ART UNIT	PAPER NUMBER
			2881	

DATE MAILED: 11/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/017,262	Applicant(s) ADLER ET AL.	
	Examiner Phillip A Johnston	Art Unit 2881	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 August 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 61,62 and 66-69 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 61,62 and 66-69 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 14 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. This Office Action is submitted in response to RCE / Amendment filed 8-09-2004, wherein claims 1-60 and 63-65 have been canceled, and claims 61,66, and 69 have been amended. Claims 61,62, and 66-69 are pending.

Claims Rejection – 35 U.S.C. 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

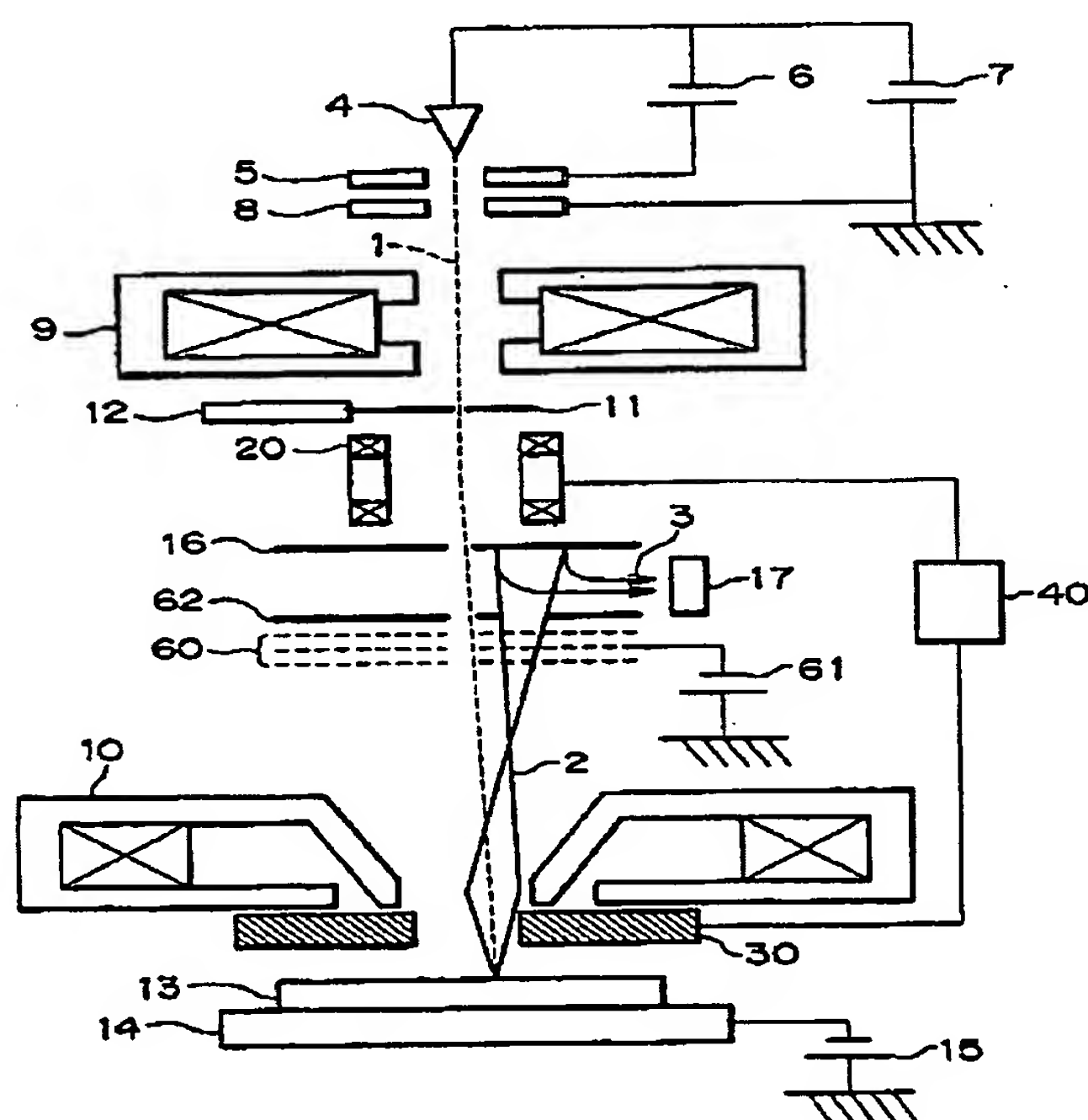
3. Claims 61, and 66 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent Pub. No. 2001/0010357 to Ose, in view of Talbot, U.S. Patent No. 6,252,412.

Ose (357) discloses the following;

(a) An electron beam apparatus for detecting secondary electrons and reflected electrons based upon the angular positions from which they were generated from the specimen surface, as recited in claims 61 and 66. See paragraphs [0026] and [0032]; and Figure 1 below;

- (b) The use of a conversion electrode 16 to detect only high energy electrons reflected at a nearly perpendicular angle, as recited in claims 61 and 66. See paragraph [0032];
- (c) The use of an energy filter 60 to detect only secondary electrons, as recited in claims 61 and 66. See paragraph [0031]; and Figure 1 below.

F I G . 1



Ose (357) as applied above fails to teach the use of a second electron beam to control surface charging due to the high energy electron beam. However, Talbot (412) discloses the use a dual beam system, having a high energy beam and a flood gun that emits low energy electrons for control of surface charge build up. See Column 8, line 55-67; and Column 9, line 1-34 and 30-36.

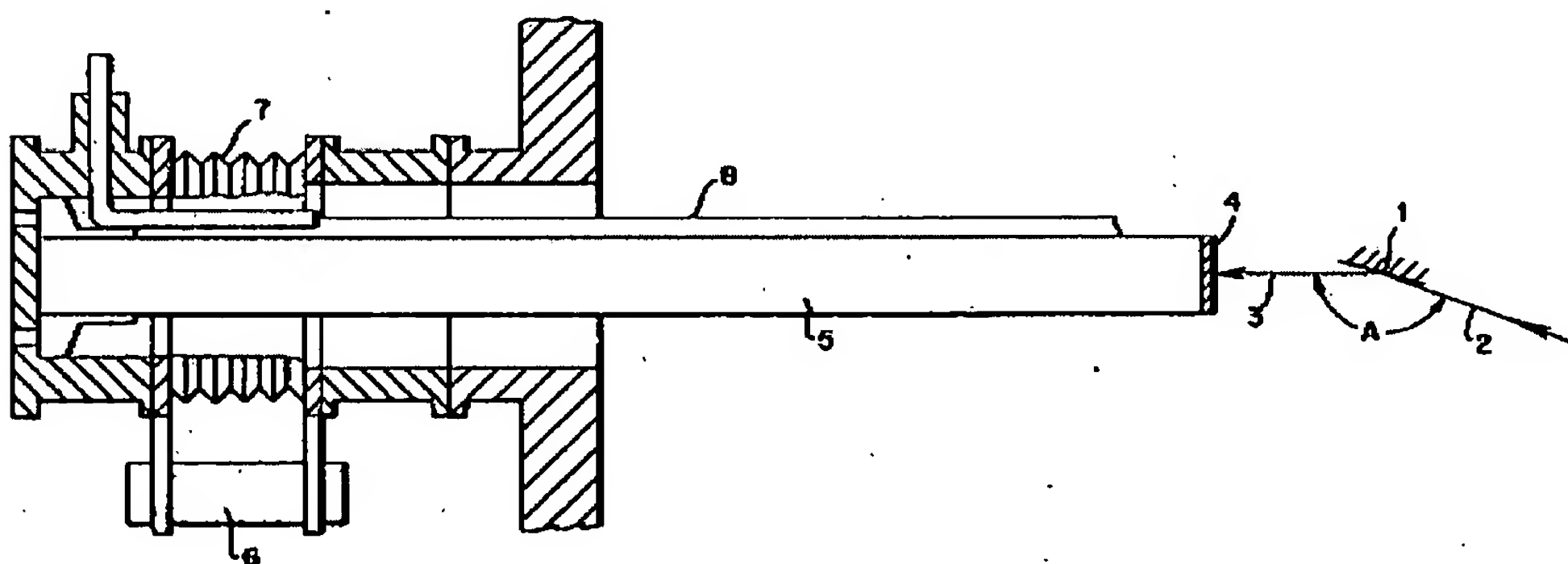
Therefore it would have been obvious to one of ordinary skill in the art that the scanning electron microscope method of Ose (357) can be modified to use the dual

Art Unit: 2881

beam method of Talbot (412), to provide an electron beam flood gun for flooding the wafer with electrons to obtain an image having good voltage contrast, and more uniform contrast due to a more uniform charge distribution within the imaged area as well as the surrounding area.

4. Claims 62, and 67-69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ose (357) and Talbot (412) in view of Czernuszka, U.S. Patent No. 5,256,877.

The combination of Ose (357) and Talbot (412), as applied above discloses nearly all the limitations of claims 62, and 67-69, but does not disclose detection of the angular distribution of reflected electrons at non specular angles. However, Czernuszka (877) discloses locating a detector close to the specimen surface on a tiltable stage and detecting reflected electrons at non specular angles. See Column 2, line 3-26; and Figure 1 below.



Therefore it would have been obvious to one of ordinary skill in the art that the scanning electron microscope method of Ose (357) and Talbot (412) can be modified

to use the detection of reflected electrons at non specular angles in accordance with Czernuszka (877), to provide a method of examining a specimen for near-surface dislocations which consists in detecting reflected electrons from a specimen surface at a first angle, tilting the specimen to image the specimen at one or more angles and comparing the images.

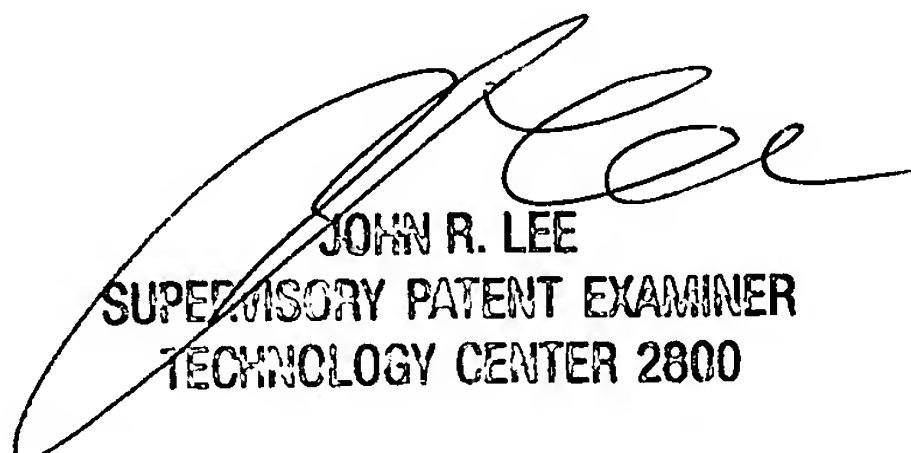
Conclusion

5. Any inquiry concerning this communication or earlier communications should be directed to Phillip Johnston whose telephone number is (571) 272-2475. The examiner can normally be reached on Monday-Friday from 7:30 am to 4:00 pm. If attempts to reach the examiner by telephone are unsuccessful, the examiners supervisor John Lee can be reached at (571) 272-2477. The fax phone number for the organization where the application or proceeding is assigned is 703 872 9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

PJ

November 8, 2004


JOHN R. LEE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800